

1) Pecora, J. D., J. C. Spano, et al. (1993). "In vitro study on the softening of gutta-percha cones in endodontic retreatment." Brazilian Dental Journal 4(1): 43-7.

Softening time of gutta-percha cones was studied in vitro using five chemical solvents: xylol, chloroform, turpentine, eucalyptol, and orange oil. An apparatus which reproduces the penetration force of an endodontic file was used on the sectioned roots of previously filled teeth. The most rapid chemical solvent of gutta-percha cones was chloroform and the slowest was eucalyptol.

2) Wennberg, A. and D. Orstavik (1989). "Evaluation of alternatives to chloroform in endodontic practice." Endodontics & Dental Traumatology 5(5): 234-7.

Chloroform is used in endodontics for plasticizing gutta-percha points and for facilitating removal of gutta-percha root canal fillings in need of re-treatment. Adverse health effects from exposure to chloroform have been reported, and to improve occupational health, it would be advantageous if a less hazardous solvent could replace chloroform. In this study, methylene chloride, methyl chloroform, tetrahydrofuran, xylol and eucalyptol were tested for their capacity to dissolve or soften gutta-percha points compared with chloroform. The effect of the test solvents was assessed by measuring the depth of penetration of a small indenter of fixed weight and shape into a gutta-percha disk covered with the test solution for various time periods. Chloroform showed the most pronounced effect, followed by methylene chloride, tetrahydrofuran, and methyl chloroform. When both occupational health and gutta-percha solvent capacity were considered, methyl chloroform seemed to be an interesting alternative to chloroform.